



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS**

**Twenty-fourth Session**

**REPORT ON RELEVANT ACTIVITIES OF THE JOINT FAO/IAEA DIVISION OF NUCLEAR TECHNIQUES  
IN FOOD AND AGRICULTURE**

**(prepared by the Joint FAO/IAEA Division)**

1. The Food and Agriculture Organization of the United Nations (FAO) and International Atomic Energy Agency (IAEA), through the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture (the "Joint FAO/IAEA Division") support and implement specific activities relevant to the Codex Committee on Residues of Veterinary Drugs in Food (CCRVD). This is achieved through the Food and Environmental Protection Section (FEP) and the FAO/IAEA Agriculture and Biotechnology Laboratories. In collaboration with sister FAO Divisions in Rome, resources and support are delivered to member countries using technical cooperation projects (TCPs), coordinated research projects (CRPs), additional extra-budgetary programmes, regional and interregional workshops, as well as research and technology adaptation/transfer, to promote food integrity, safety and enhance trade.

2. Several member countries continue to seek support and the leveraging of nuclear and isotopic analytical techniques in the research and testing of veterinary drug residues as well as related food contaminants. The Joint FAO/IAEA Division thus responds to such needs through its five sub-programmes in Food and Agriculture. Activities relevant to this committee since CCRVD23 as well those of future benefit, are highlighted in the following paragraphs.

**CO-ORDINATED RESEARCH ACTIVITIES**

3. The Joint FAO/IAEA Division implements strategic research through CRPs<sup>1</sup> and each of these CRPs involves about fifteen institutions from developed and developing countries that collaborate on a well-defined research topic for four to five years. Two CRPs relevant to CCRVD were implemented since the last meeting. The first CRP (D52039) focuses on residues/contaminants in aquaculture products and seafood, and involves participants from food safety and research institutions in Argentina, Belgium, Brazil, Cameroon, Canada, China, Ecuador, Lao PDR, Lebanon, Netherlands, Nigeria, Singapore, South Africa, Turkey, Uganda and United States of America (USA). The 2<sup>nd</sup> research coordination meeting (RCM) for this five-year project was held 24–28 October 2016 in Rancagua, Chile. The 3<sup>rd</sup> RCM is due 30 May through 6 June 2018 in Pretoria, South Africa and will be held in conjunction with an African food safety workshop. Participants in this research group have among others, developed 15 analytical methods that will be shared at the workshop and a database, the Food Contaminant and Residue Information System (FCRIS)<sup>2</sup>.

4. The 2<sup>nd</sup> CRP (D52041) focusses on the development of Integrated Radiometric and Complementary Techniques for Mixed Contaminants and Residues in Foods. Participating research and regulatory institutions in the following member countries are involved: Benin, Botswana, China, Colombia, Ecuador, Italy, Macedonia FYR, Netherlands, Nicaragua, Pakistan, Papua New Guinea, Peru, Spain, South Africa, Uganda and USA. The 1<sup>st</sup> RCM was held 19–23 June 2017, at the IAEA Headquarters in Austria. A common research framework and an international network of 16 participant laboratories/institutions was established. The research work will support systematic programmes for measuring mixtures of contaminants and residues and generating multi-class analytical methods. The overall aim of this CRP is to leverage the advantages of nuclear, isotopic and complementary techniques to strengthen the capacity of analytical laboratories in member countries and therefore enhance respective national contaminant and residue monitoring programs. New multi-class analytical methods will be developed, validated and transferred to control laboratories. Data on residues that would be of interest to the CCRVD will also be generated. This CRP will therefore contribute to food safety and help enable international trade. The CRP also includes some work on developing analytical methods to

<sup>1</sup> See <http://cra.iaea.org/cra/how-to-participate.html>

<sup>2</sup> See <http://nucleus.iaea.org/fcris/>

support global efforts to curb Antimicrobial Resistance (AMR) and antimicrobial use spearheaded by FAO, OIE and WHO. The FEP's contribution is from the perspective of antimicrobial residue testing and monitoring.

### **TECHNICAL COOPERATION PROJECTS – CAPACITY BUILDING INCLUDING LABORATORY NETWORKING**

5. The Joint FAO/IAEA Division has continued providing technical backstopping to national, regional and interregional FAO and IAEA TCPs that assist member countries by providing equipment, expert advice, training, analytical methods and opportunities to share knowledge and experience. Table 1 highlights selected ongoing project activities while Table 2 lists new projects that have just commenced in January 2018.

6. The Joint FAO/IAEA Division promotes sharing of laboratory technical knowledge, experiences and resources including methods/protocols for testing residues and collecting relevant data. As a mechanism to enhance capacity building a lot of work has been done, among others, through regional networks such as the African Food Safety Network (AFoSaN)<sup>3</sup>, the Latin American and Caribbean Analytical Network (RALACA)<sup>4</sup> and now a food safety network in the Asia. RALACA involves 54-member institutions in 21 countries of the Latin American and the Caribbean, the AFoSaN institutions in 33 African countries and the Asia-Pacific region network institutes in 16 countries.

7. Selected relevant capacity building activities implemented since the last CCRVDF include interregional and regional training on a wide range of topics:

laboratory quality management system (internal auditing), Bogor, Indonesia, 12–16 Dec 2016; 15 countries, 24 participants;

optimization and harmonization of radio-receptor assay techniques for analysis of veterinary drug residues and related chemical contaminants in foods and feeds, Kampala, Uganda, 6-17 Feb 2017; 10 countries, 23 participants;

residues of substances used both as veterinary drugs and pesticide in animal products, Cotonou, Benin, 13-24 March 2017; about 23 countries and almost 30 participants;

interregional training course on pesticide residues in animal products, Cotonou, Benin, 13–24 March 2017;

basic instrument maintenance and troubleshooting, Pretoria, South Africa; 29 May–9 June, 2017; 13 countries, 25 participants;

basic maintenance and troubleshooting for food safety analytical instrumentation, Singapore; 20–24 May 2017; 12 countries, 30 participants;

veterinary drug residues with focus on honey and aquaculture products; 16-20 April 2018; Izmir, Turkey; 13 countries, 23 participants;

analytical methods for veterinary drug residues in foods using radio-receptor assay and complementary techniques, Rabat, Morocco, 18–22 September 2017; 28 countries, 36 participants;

radio-receptor assays, related screening and confirmatory methods for veterinary drug residues and associated chemical/natural food contaminants; Bangkok, Thailand; 15 countries, 29 participants;

### **DATABASE OF ANALYTICAL METHODS FOR VETERINARY DRUG RESIDUES**

8. The Joint FAO/IAEA Division continues to generate or receive analytical methods to disseminate to member countries through FCRIS and facilitate national residue monitoring programmes for veterinary drugs and related contaminants. The FCRIS methods, now estimated at 300, support the application of CXG 71–2009. FCRIS has now been upgraded featuring analytical methods and related information for mycotoxins, toxic metals and other contaminants as well. CCRVDF members are encouraged to access the database and/or submit additional validated analytical methods (standards operating procedures) in pdf or word format.

### **SOME RELEVANT SCIENTIFIC MEETINGS**

9. In cooperation with the FAO Regional Office for Africa, the National Metrology Institute of South Africa and other stakeholders, the Joint FAO/IAEA Division is organizing an African Food Safety Workshop to Promote Standards, Reliable Methods of Analysis and Inter-Institutional Cooperation in Pretoria, South Africa, 4–8 June 2018. Themes include analysis of veterinary drug and pesticide residues as well as mycotoxins and related contaminants. CCRVDF members and well-wishers are, hereby, invited to attend and contribute. The event has attracted interest from Asia, Canada, the EU, Latin America and USA.

<sup>3</sup> See: <http://www.africanfoodsafetynetwork.org/>

<sup>4</sup> See: <http://red-ralaca.net>

10. The Joint FAO/IAEA Division is also playing an active role – including boosting participation – in the upcoming 8<sup>th</sup> international symposium on hormone and veterinary drug residue analysis<sup>5</sup> due on 22–25 May 2018, in Ghent, Belgium. The Head of the Food and Environmental Protection Laboratory of the Joint FAO/IAEA Division is part of the scientific committee. Project counterparts from Benin, Botswana, Costa Rica, Honduras, Indonesia, Lao PDR, Morocco, Pakistan, Philippines, Sri Lanka, Syria, Thailand, Uruguay and Viet Nam will attend the symposium and later share knowledge gained.

#### ENHANCING EFFECTIVE PARTICIPATION IN CODEX ACTIVITIES

11. Through its interregional capacity building project on food safety, the Joint FAO/IAEA Division contributed to Codex efforts to enhance effective participation of members in committee meetings. Five project counterparts from Argentina, Morocco, Mozambique, Nigeria and Venezuela received support to attend CCRVDF23. These countries and a few more have also been supported to attend and effectively contribute to the CCRVDF24. Furthermore, up to 20 countries in Africa, Asia and Latin America have received technical and related support to collect residue monitoring data potentially useful for the GEMS/WHO database as well.

#### SUPPORTING AMR-RELATED WORK

12. Besides research activities on analytical methods that are useful for residue testing, assessing use and verifying the quality of veterinary pharmaceuticals, the Joint FAO/IAEA Division provided technical support on antimicrobial residue monitoring in South East Asia as part of the Global and FAO Action Plan on AMR, Bangkok, Thailand, 13–15 November 2017. This was during a technical workshop organized by the FAO Regional Office for Asia and the Pacific (FAORAP) on the margins of the antimicrobial awareness week. Twenty participants from Cambodia, Indonesia, Lao PDR, Philippines, Thailand and Viet Nam attended. Following the workshop, capabilities of the Bureau of Quality and Safety of Food (BQSF), Department of Medical Sciences, Ministry of Public Health, to conduct analyses of drug residues and AMR testing and surveillance were assessed and recommendations/advice provided.

13. Support was also provided to other countries, including identification and evaluation of potential AMR surveillance reference laboratories

**Table 1: Overview of selected projects through which the Joint FAO/IAEA Division supported or supports the control of veterinary drug residues**

<i>Member Country and project code (s)</i>	<i>Work done and benefits</i>
Angola (RAF/5/078; INT/5/154)	<ul style="list-style-type: none"> <li>• Strengthening of an analytical laboratory for testing contaminants/residues in food products at the Veterinary Research Institute (VRI);</li> <li>• Improved capabilities to perform basic instrument maintenance and troubleshooting</li> </ul>
Algeria (RAF/5/078)	<ul style="list-style-type: none"> <li>• Enhanced capacity to analyze and monitor veterinary drug residues and related contaminants</li> </ul>
Argentina (INT/5/154; D52039)	<ul style="list-style-type: none"> <li>• Boosted analytical capacity of the Laboratory of the National Health Service and Food Quality (SENASA) to complement Argentina's national chemical contaminant/residue monitoring programme;</li> <li>• Collaborative research with National University of Cordoba undertaken, with development of analytical methods to support supply of safe/quality of aquaculture products;</li> <li>• Support to attend Codex meeting</li> </ul>
Bangladesh (BGD/5/031; RAS/5/078)	<ul style="list-style-type: none"> <li>• Improved analytical (screening &amp; confirmatory) capabilities for testing veterinary drug residues and related contaminants;</li> <li>• Enhanced cooperation with other countries - including benchmarking laboratory training - promoted through a regional project "<i>Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants</i>"</li> <li>• Hands on training on effective use of radio-receptor assay and confirmatory analytical techniques</li> </ul>

<sup>5</sup> See: <http://www.vdra.be/>

<b>Member Country and project code (s)</b>	<b>Work done and benefits</b>
Benin (BEN/5/009; RAF/5/078; INT/5/154; D52041)	<ul style="list-style-type: none"> <li>• Support to the Central Laboratory for Food Health Safety (LCSSA) contributed to laboratory accreditation; establishment of an internationally acceptable residue monitoring plan for residues in foods such as honey; enhanced competitiveness on export market;</li> <li>• Collaborative research on mixed contaminants and TDS conducted;</li> <li>• Support to attend codex meeting</li> </ul>
Bolivia (INT/5/154)	<ul style="list-style-type: none"> <li>• Capacity enhanced for testing drug residues and other food contaminants by SENASAG and specifically Laboratory of Veterinary Research and Diagnosis (LIDIVET)</li> <li>• Inter-laboratory cooperation involving institutions in Latin America and beyond strengthened; knowledge shared;</li> <li>• Support to attend codex meeting</li> </ul>
Botswana (RAF/5/078; INT/5/154; D52041)	<ul style="list-style-type: none"> <li>• Analytical capabilities for testing and monitoring food contaminants at the National Veterinary laboratory (BNVL); National Food Control and Ministry of Agriculture (Plant Protection) strengthened;</li> <li>• State-of-the-art instrumentation improved;</li> <li>• Enhanced quality management and laboratory accreditation;</li> <li>• Collaborative research for mixed contaminants initiated</li> </ul>
Brazil (D52039; Other capacity building activities)	<ul style="list-style-type: none"> <li>• Continued cooperation with Brazil's Ministry of Agriculture, LANAGRO in capacity building for residue testing (hosting of trainees from countries e.g. Syria, Mozambique and Botswana);</li> <li>• Coordinated research on residue analysis in aquaculture products with Microbioticos Analytical Laboratory in Campinas and the Centre for Nuclear Energy in Agriculture (CENA) strengthened; a number of analytical methods developed</li> </ul>
Cameroon (D52039 RAF/5/078; INT/5/154)	<ul style="list-style-type: none"> <li>• Enhanced analytical capabilities of the Institute for Medical Research and Studies of Medicinal Plants (IMPM);</li> <li>• Collaborative research promoted and methods developed (e.g. a primary validation dossier for multi-analyte methods in various fish species, in collaboration with ILVO Belgium, Ugandan National Bureau of Standards and Charm Sciences;</li> <li>• Support to attend codex meeting</li> </ul>
Chile (INT/5/154)	<ul style="list-style-type: none"> <li>• Enhanced institutional capacity (several personnel trained) for monitoring various residues and related contaminants;</li> <li>• Interregional co-operation to collect occurrence data strengthened;</li> <li>• Support to attend codex meetings</li> </ul>
Costa Rica (COS/5/032; INT/5/154)	<ul style="list-style-type: none"> <li>• Support to the National Veterinary Services Laboratory (LANASEVE) enhanced monitoring of veterinary drug residues and related contaminants in animal products using nuclear/isotopic and complementary analytical techniques;</li> <li>• State-of-the-art screening and confirmatory analytical capabilities in place, personnel trained accordingly and tools applied to national residue testing;</li> <li>• Support to LANASEVE and residue testing boosted food exports</li> </ul>
Cuba (INT/5/154)	<ul style="list-style-type: none"> <li>• Strengthened laboratory capacity for the Centre for Technological Applications and Nuclear Development (CEADEN) including instrument maintenance and troubleshooting</li> </ul>
Ecuador (D52039; INT/5/154; D52041)	<ul style="list-style-type: none"> <li>• Supported institutional capacity enhancement at the National Fisheries Institute (INP);</li> <li>• INP and AGROCALIDAD participate in coordinated research on aquaculture products and mixed contaminants;</li> <li>• INP and AGROCALIDAD cooperate with several countries under INT/5/154;</li> <li>• Support to attend and effectively contribute to codex meetings</li> </ul>

<b>Member Country and project code (s)</b>	<b>Work done and benefits</b>
Egypt (RAF/5/078; INT/5/154; EGY/5/026)	<ul style="list-style-type: none"> <li>• Support for residue testing by the National Centre for Radiation Research and Technology (NCRRT) of the Egyptian Atomic Energy Authority (EAEA) in collaboration with the Central Laboratory of Residue Analysis of Pesticides and Heavy Metals in Foods enhanced;</li> <li>• NCRRT and the Central laboratory, network with other counterparts in Africa and other parts of the world to enhance or share knowledge on testing of contaminants;</li> <li>• Institutional support of benefit to food safety agency</li> </ul>
Ethiopia (RAF/5/078)	<ul style="list-style-type: none"> <li>• Continued human resource development for residues and related chemical hazard testing</li> </ul>
Guatemala (INT5/1/54)	<ul style="list-style-type: none"> <li>• Continued human resource development at the National Health Laboratory, Ministry of Public Health and Social Assistance (MSPAS);</li> <li>• Support enhanced implementation of ISO/IEC 17025 requirements for testing/calibration laboratories has strengthened;</li> <li>• Support provided to attend codex meetings</li> </ul>
Honduras (INT5/1/54)	<ul style="list-style-type: none"> <li>• The National Laboratory for Residue Analysis (LANAR) has benefited from training, contributing to the lab's efforts to meet international standards in the past; the lab is collaborating with several other countries in the areas of residue testing under an interregional project.</li> </ul>
Indonesia (RAS/5/078; INT5/1/54)	<ul style="list-style-type: none"> <li>• Strengthened laboratory capacity (including human resource and analytical instrumentation) to control residues/contaminants in Indonesia through the Indonesian Research Centre for Veterinary Science in Bogor;</li> <li>• Support contributes to strengthening of the country's national residue monitoring programme and promoted institutional collaboration (shared instrumentation and joint training);</li> <li>• Cooperation to enhance capacity building and contribute occurrence data through regional and interregional food safety projects</li> </ul>
Jordan (RAS/5/078)	<ul style="list-style-type: none"> <li>• Human resource development (training) and enhancing capabilities of the Jordan Food and Drug Administration through a collaborative regional (Asia) food safety project, boosting residue monitoring</li> </ul>
Lao PDR (RAS/5/078; D52039)	<ul style="list-style-type: none"> <li>• Support to enhance capacity at Food and Drug Quality Control Centre Ministry of Health of and National Animal Health Laboratory to test food contaminants;</li> <li>• Cooperation under a regional food safety laboratory network boosted; methods of analysis shared;</li> <li>• Support for collaborative research on safety of aquaculture products provided</li> </ul>
Lebanon (RAS/5/078; INT/5/154; D52039)	<ul style="list-style-type: none"> <li>• The analytical laboratory at the Lebanese Atomic Energy Commission (LAEC), National Council for Scientific Research (CNRS) supported to promote residue testing through regional and interregional partnerships;</li> <li>• Collaborative research on safety of aquaculture products/sea food.</li> </ul>
Malaysia (RAS/5/078)	<ul style="list-style-type: none"> <li>• Support for Malaysia's Veterinary Public Health Laboratory (VPHL) under a regional food safety project; networking enhanced and analytical methods shared</li> </ul>
Mauritius (RAF/5/078; MAR/5/024)	<ul style="list-style-type: none"> <li>• Screening, quantitative and confirmatory in place at FAREI and sister institution Food Technology Laboratory;</li> <li>• Regional networking enhanced;</li> <li>• Testing of veterinary drug residues to support assessing safety of food imports launched; baseline information collected; More routine work initiated.</li> </ul>
Mongolia (RAS/5/078; INT5/1/54)	<ul style="list-style-type: none"> <li>• Laboratory institutional capacity for residue testing enhanced;</li> <li>• SCVL capabilities enhanced through regional and interregional collaboration</li> </ul>

<b>Member Country and project code (s)</b>	<b>Work done and benefits</b>
Mozambique (MOZ/5/006; RAF/5/078; INT5/1/54)	<ul style="list-style-type: none"> <li>• Residue/contaminant testing laboratory at Mozambique's Agricultural Research Institute of Mozambique (IIAM), Directorate of Animal Sciences strengthened;</li> <li>• IIAM capabilities enhanced through regional and interregional collaboration;</li> <li>• Supported provided to attend codex meeting</li> </ul>
Namibia (RAF/5/078)	<ul style="list-style-type: none"> <li>• Enhanced capabilities (more personnel trained) of the Namibian Standards Institution (NSI) and the Central Veterinary Laboratory to ensure food safety and quality;</li> <li>• Both institutions host other scientists in the country in food hazard analysis</li> </ul>
Nigeria (RAF/5/078; INT/5/154; NIR/5/039; D52041)	<ul style="list-style-type: none"> <li>• Continued institutional capacity building for the National Agency for Food and Drug Administration and Control (NADFC) to enhance residue monitoring; A number of staff trained;</li> <li>• Support to improve laboratory quality management system;</li> <li>• Support to participate in codex meeting (s);</li> <li>• Collaborative research on veterinary drug residue investigation in sea food/aquaculture products;</li> <li>• Regional and interregional collaboration for capacity building</li> </ul>
Oman (Sultanate) (RAS/5/078; OMA/5/003)	<ul style="list-style-type: none"> <li>• A food safety laboratory at the Ministry of Agriculture and Fisheries in the Sultanate of Oman is working with other labs in Asia as a way to enhance analytical capabilities for residue testing through networking;</li> <li>• A number of personnel trained; procurements to facilitate national residue testing/monitoring provided</li> </ul>
Pakistan (PAK/5/048; RAS/5/078; INT5/1/54; D52041)	<ul style="list-style-type: none"> <li>• Institutional capacity for monitoring of veterinary drug residues built at the National Institute for Agriculture and Biology (NIAB); National Institution for Biotechnology and Genetic Engineering (NIBGE) and national veterinary labs;</li> <li>• Laboratory accreditation; analytical service for veterinary drug residues in place;</li> <li>• Regional and Inter-regional collaboration strengthened analytical capabilities;</li> <li>• Contaminant testing and research activities enhanced</li> </ul>
Papua New Guinea (RAS/5/078; D52041)	<ul style="list-style-type: none"> <li>• The National Agriculture Quarantine and Inspection Authority is now part of an Asia collaborative project "Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants";</li> <li>• Instrumentation now in place to facilitate testing of residues/food contaminants</li> </ul>
Paraguay (INT5/1/54)	<ul style="list-style-type: none"> <li>• Continued capacity building through the Universidad Nacional de Asunción as part of an interregional food safety project including work on veterinary drug residue analysis</li> </ul>
Peru (D52041)	<ul style="list-style-type: none"> <li>• SENASA's residue lab participates in a CRP on integrated analytical methods for mixed contaminants</li> </ul>
Philippines (RAS/5/078)	<ul style="list-style-type: none"> <li>• Enhancement of the Laboratory Division, National Meat Inspection Service, Department of Agriculture under the Asian regional food safety project;</li> <li>• Laboratory analytical test and effective use of analytical instrumentations provided</li> </ul>
Seychelles (RAF5078; INT5154)	<ul style="list-style-type: none"> <li>• Capacity to test veterinary drug residues including (screening and soon confirmatory) built; personnel trained;</li> <li>• Part of a regional network and participates in an interregional food safety project</li> </ul>
Singapore (RAS/5/078; INT/5/154; D52039)	<ul style="list-style-type: none"> <li>• The Veterinary Public Health Centre, Agri-Food and Veterinary Authority of Singapore cooperates with a number of regional and interregional food safety labs involved in residue monitoring; the institute is also part of an international research project on safety of aquaculture products;</li> <li>• Has hosted a number of regional and interregional group training; taken part in codex meetings as a team</li> </ul>

<b>Member Country and project code (s)</b>	<b>Work done and benefits</b>
Sierra Leone (SIL5016; RAF5078)	<ul style="list-style-type: none"> <li>• Laboratory capacity building support to the Sierra Leone Bureau of Standards, to enhance testing of various contaminants; part of a regional collaborative</li> </ul>
South Africa (RAF/5/078; INT5/1/54; D52039; D52041)	<ul style="list-style-type: none"> <li>• Institutional capacity enhancement for Onderstepoort Veterinary Institute (OVI) of the Agricultural Research Council to strengthen networking among food safety labs that utilize nuclear/isotopic and related techniques;</li> <li>• OVI and collaborating institutions in Africa under RAF/5/078 obtain support in joint activities such as proficiency testing, sharing of analytical methods and group training;</li> <li>• OVI trains lab personnel for other FAO/IAEA member countries in residue testing;</li> <li>• OVI is part of the international research project on residues in aquaculture products as well as an interregional food safety project</li> </ul>
Sri Lanka (RAS/5/078; INT/5/154)	<ul style="list-style-type: none"> <li>• Capacity of the Faculty of Veterinary Medicine and Animal Science, University of Peradeniya and sister institutions enhanced for testing of drug residues and related contaminants; the institution hosts the platform for a regional Asian project and is an active part of an interregional food safety project.</li> </ul>
Sudan (RAF/5/078)	<ul style="list-style-type: none"> <li>• Institutional capacity strengthened for residue monitoring in Sudan through the Department of Radioisotopes, Central Veterinary Research Laboratory Centre and Department of Food Safety and Biotechnology, National Food Research Centre;</li> <li>• The two institutions are part of an African lab networking project</li> </ul>
Syria Arab Republic (RAS/5/078; SYR5024)	<ul style="list-style-type: none"> <li>• The Division of Animal Production, Department of Agriculture Atomic Energy Commission of Syria has received capacity building support for residue testing and is now benefiting from an Asia regional project;</li> <li>• A laboratory for testing contaminants and analyzing biological matrices setup/strengthened</li> </ul>
Tanzania (RAF/5/078; INT5/1/54)	<ul style="list-style-type: none"> <li>• Institutional capacity for residue testing enhanced at the Tanzania Food and Drug Administration (TFDA) including staff training and procurement of instrumentation, proficiency testing and inter-lab tests/comparisons;</li> <li>• TFDA food safety laboratory has enhanced accreditation;</li> <li>• Networking with other African countries continues including scientific visits and proficiency testing;</li> <li>• Interaction and knowledge exchange under regional and interregional food safety projects</li> </ul>
Thailand (RAS/5/078)	<ul style="list-style-type: none"> <li>• Analytical capabilities of the Bureau of Quality Control of Livestock Products (BQCLP) is an active member of an Asia food safety regional project; hosts regional training; participates in inter-lab work and shares methods of analysis</li> </ul>
Tunisia (RAF/5/078; INT5/1/54)	<ul style="list-style-type: none"> <li>• Capacity built to test veterinary drug residues and related contaminants at the National Centre for Nuclear Science and Technology (CNRST) and related institutions;</li> <li>• CNRST benefits from a number of training programmes and inter-laboratory test studies;</li> <li>• CNRST participates with other labs through a regional (Africa) and interregional food safety technical cooperation projects</li> </ul>
Uganda (RAF/5/078; INT5/1/54; UGA/5/039; D52039; D52041)	<ul style="list-style-type: none"> <li>• Capacity built at a number of institutions to establish and implement a national residue monitoring programme, including the Uganda Meat Export Development Programme;</li> <li>• Collaboration for residue monitoring promoted at the National Bureau of Standards (UNBS) and the Department of Animal Production and Marketing, Ministry of Agriculture, Animal Industry and Fisheries (MAAIF);</li> <li>• Others receiving support include Government Analytical Laboratory, National Drug Authority and the Dairy Development Authority;</li> <li>• UNBS is part of the international research projects on residues in aquaculture products and on mixed contaminants;</li> <li>• Collaborates with others in regional and interregional food safety projects;</li> <li>• Supported to participate in codex meetings</li> </ul>

<b>Member Country and project code (s)</b>	<b>Work done and benefits</b>
Uruguay (INT5/1/54)	<ul style="list-style-type: none"> <li>• Support provided to the Division of Veterinary Laboratories (DILAVE) helping to enhance national residue monitoring to a level of international repute;</li> <li>• DILAVE is part of the Interregional food safety project and host the group's web platform for exchange of knowledge and experience on residue/contaminant testing;</li> <li>• DILAVE is one of several countries that contribute analytical methods for veterinary drug residues to the Joint FAO/IAEA Division's database;</li> <li>• Supported to attend codex.</li> </ul>
Viet Nam (RAS/5/078)	<ul style="list-style-type: none"> <li>• Quality Assurance and Testing Centre 3 is an active member of Asia regional project on food contaminants;</li> <li>• QUATEST 3 hosted a regional group training on sampling and risk assessment;</li> <li>• Capacity enhanced in instrument maintenance</li> </ul>
Venezuela (INT5/1/54)	<ul style="list-style-type: none"> <li>• The Food Products Control Lab at the National Institute for Agricultural Research received support to enhance analytical capabilities through the cooperative interregional project;</li> <li>• Specialized training received;</li> <li>• Supported to attend the last CCRVDF after several years</li> </ul>
Zimbabwe (RAF/5/078)	<ul style="list-style-type: none"> <li>• Institutional capacity for the testing of veterinary drug residues and related contaminants strengthened at the Central Veterinary Laboratory (CVL);</li> <li>• Enhanced residue testing at CVL continues e.g. through acquisition of a radio-receptor assay tool and kits;</li> <li>• Helped enhance testing of contaminants; supported the initiation of systematic residue monitoring.</li> </ul>
Dominica (DMI/5/001 – restart)	<ul style="list-style-type: none"> <li>• Enhancing Capacity to Monitor Agrochemical Residues in Foods and the Environment</li> </ul>

**Table 2. New IAEA TCPs supported by the Joint FAO/IAEA Division and relevant to CCRVDF's work (Beginning 2018)**

<b>Member Country and project code</b>	<b>Title</b>
Algeria (ALG/5/030)	Contributing to the Implementation of the National Agricultural Development Programme Through Strengthening Soil, Water and Nutrition Management Including Food Safety Using Nuclear and related Techniques
Angola (ANG/5/014)	Upgrading Laboratory Services for Control of Food Quality for Human and Animal Consumption
Botswana (BOT/5/017)	Enhancing Capabilities for Inter-Institutional Monitoring of Chemical Food Contaminants Using Nuclear/Isotopic and Complementary Analytical Techniques
Cambodia (KAM/5/004)	Strengthening National Capacity for Food and Feed Safety
Cameroon (CMR/5/023)	Strengthening Laboratory Capabilities to Monitor Contaminants in Fisheries Products
Costa Rica (COS/5/036)	Improving Analytical Capacity to Monitor Food Contaminants and Veterinary Drug Residues Using Nuclear/Isotopic and Complementary Techniques
Cuba (CUB/5/022)	Promoting Food Safety through the Mitigation of Contaminants in Fruits for Human Consumption
Mongolia (MON/5/024)	Enhancing Food Safety Analytical Capabilities for Veterinary Drug Residues and Related Contaminants Using Isotopic Techniques



<b>Member Country and project code</b>	<b>Title</b>
Morocco (MOR/5/037)	Enhancing Control of Chemical Food and Feed Contaminants, Animal Disease Diagnosis and Trade in Fresh Fruits
Namibia (NAM/5/015)	Developing Capacity of the National Standard Institution and Agro-Marketing and Trade Agency in the Areas of Food Safety
Niger (NER/5/022)	Strengthening Nuclear / Isotopic and Complementary Laboratory Capabilities for Monitoring Contaminants in Food, Feed and Water
Seychelles (SEY/5/010)	Strengthening Laboratory Capabilities to Enhance Food Safety Using Nuclear and Complimentary Analytical Techniques
Sri-Lanka (SRL/5/048)	Strengthening National Capacity for Food and Feed Safety
Sudan (SUD/5/039)	Enhancing the Capacity to Monitor Pesticide and Veterinary Residues in Food Using Nuclear and Complementary Techniques
Thailand (THA/5/056)	Strengthening Food Safety Laboratory Capacities
T.T.U.T.J of T. Palestinian A. (PAL/5/010)	Strengthening Capability to Monitor Contaminants in Food and Related Matrices through Nuclear and Complementary Analytical Techniques
Uganda (UGA/5/040)	Strengthening Multi-Sectoral Food Contaminant Monitoring Programmes Through the Effective Use of Nuclear, Isotopic and Complementary Techniques
Viet Nam (VIE/5/022)	Promoting Interlaboratory Comparison and Accreditation in Testing Chemical Contamination for Food Safety
Zambia (ZAM/5/032)	Strengthening and Expanding Analytical Capacity to Monitor Food Contaminants using Nuclear/Isotopic and Complementary Tools